

THURSDAY, FEBRUARY 14, 1884

MR. RUSKIN'S BOGIES

PROFESSOR RUSKIN'S utterances are perhaps to be taken least seriously when he is himself most serious, and probably he was never more in earnest than in his jeremiad on modern clouds, delivered at the London Institution on the 4th and 11th inst. Probably none of the readers of NATURE have been terrified by the storm cloud of the nineteenth century, but should it be otherwise we hasten at once to their relief. Twenty years before the date fixed by Mr. Ruskin for the first appearance of his portentous "plague-cloud," the writer of the present article commenced a series of observations on the forms and structures of clouds, followed a few years later by such daily charts of wind and weather as could be constructed from the data, somewhat meagre, that were then accessible. As might be expected, cyclone and anti-cyclone were then as they are now. The dimensions and densities of the cloud layers have not altered, neither has our moral degeneracy nor the increased smoke of our manufacturing towns developed any new form of cloud. Neither (until the phenomenal sunrises and sunsets of the last three months) has Nature, in painting the clouds, employed upon her palette any fresh tints, whatever artists may have done. Further, we have not observed, nor met with any one, except Mr. Ruskin, who has observed, that the wind during the last thirteen years has adopted a "hissing" instead of a "wailing" tone, or that the pressure anemometer indicates that the motion of the air has become more tremulous than heretofore.

Admiration ought ungrudgingly to be bestowed on one who has done good service as an art critic and as a contributor to English literature. The sympathy, moreover, which, denied to those who are in advance of their age, is naturally accorded to the archaic type of mind, is enhanced by the attractiveness of a personality whose idealism is as lofty as that of Mr. Ruskin. But we maintain that there is a further sentiment which contributed to the applause which Mr. Ruskin's audiences bestowed upon him. Speaking generally, "broadly and comfortably," as he would say, Mr. Ruskin is not a representative man, yet he represents a certain spirit of Philistinism (for it merits this name), which is far from being unpopular, and which shows itself in opposition to scientific culture. He is the spokesman of that mental attitude which misinterprets the province of science and affects to misunderstand the plainest utterances of the physicist. "The first business," he says, "of scientific men is to tell you things that happen, as, that if you warm water it will boil." "The second and far more important business is to tell you what you had best do under the circumstances—put the kettle on in time for tea." "But if beyond this safe and beneficial business they ever try and explain anything to you, you may be confident of one of two things—either that they know nothing (to speak of) about it, or that they have only seen one side of it, and not only have not seen, but usually have no mind to see, the other. When, for instance, Prof. Tyndall explains the twisted beds of the Jungfrau to you by intimating that the Matterhorn is growing flat, or the clouds on the lee side of

the Matterhorn by the winds rubbing against the windward side of it, you may be pretty sure the scientific people do not know much (to speak of) yet either about the rock beds or the cloud beds. And even if the explanation, so to call it, be sound on one side, windward or lee, you may, as I said, be nearly certain it will not do on the other. Take the very top and centre of scientific interpretation by the greatest of its masters. Newton explained to you—or at least was supposed to have explained—why an apple fell [*sic*], but he never thought of explaining the exactly correlative but infinitely more difficult question how the apple got up there." One would have supposed that even the lecturer must be aware that modern science is at least as much occupied with the last as with the first of these problems. Mr. Ruskin has not yet done with Prof. Tyndall;—in other words, he can nowhere suppress his dislike of scientific thought. "When I try to find anything firm to depend on, I am stopped by the quite frightful inaccuracy of the scientific people's terms, which is the consequence of their always trying to write Latin-English, and so losing the grace of the one and the sense of the other." "I am stopped dead because the scientific people use undulation and vibration as synonyms. 'When,' said Prof. Tyndall, 'we are told that the atoms of the sun vibrate at different rates, and produce waves of different sizes, your experience of water waves will enable you to form a tolerably clear notion of what is meant.' 'Tolerably clear,' your toleration must be considerable then. Do you suppose a water wave is like a harp string? Vibration is the movement of the body in a state of tension, undulation that of a body absolutely lax. In vibration not an atom of the body changes its place in relation to another; in undulation not an atom of the body remains in the same place with regard to another. In vibration every particle of the body ignores gravitation or defies it; in undulation every particle of the body is slavishly submitted to it." And more of the same sort. We should not weary the reader with these quotations were it not too true that much of the poetry which Mr. Ruskin adores, and much of the art of which he is the apostle—not a little in short of the poetry and art of our day—are full of this anti-scientific Philistinism, whose ideal is ever in harsh contrast to the real, and which from its antagonism to the facts of Nature is the great producer of bogies. One has only to go through any picture exhibition to see plenty of those clouds which Mr. Ruskin persuades himself occur in Nature, which, "irrespective of all supervening colours from the sun," are intrinsically "white, brown, grey, or black"; "argent or sable, baptised in white, or hooded in blackness."

We recommend those who sympathise with Mr. Ruskin to study some of those little books which are beginning to be the delight of our children. Such readers may never attain the scientific spirit, yet they may possibly catch a few chords of that great song in which there is complete harmony between the Universe of Nature and that of poetic and artistic sentiment, whose faint beginnings will alone be heard in this plague-stricken century.

Against cloud-classification the stars in their courses have hitherto fought, and Mr. Ruskin in his continues the battle. Grievous are the wounds which he inflicts

Let us see how he heals them. 'Every cloud is primarily definable—'visible vapour of water, floating at a certain height in the air.' It is thus distinguished from that "form of watery vapour" which "exists just as widely and generally at the bottom of the air as the clouds do on what for convenience' sake we may call the top of it." Mr. Ruskin hopelessly confuses vapour with water-dust, and this confusion leads him into some amusing difficulties. He asks whether it is "with cloud vapour as with most other things, that are seen when they are there, and not seen when they are not there, or has cloud vapour so much of the ghost in it that it can be visible or invisible as it likes, and might, perhaps, be all unpleasantly and malignantly there just as much when they did not see it as when they did?" To this he answers "comfortably and generally" that "on the whole a cloud is where we see it, and not where we do not see it," and that we must not allow the scientific people to tell us that rain is everywhere, but palpable in one place, impalpable in another. He presently returns to his point. He has defined a floating or sky cloud, and defined the falling or earth cloud (which by the way had been altogether excluded by his first definition from his category of clouds). "But there is a sort of thing between the two which needs another sort of definition, namely, mist." The definition of this intermediate substance, however, Mr. Ruskin does not supply, being content with asking what difference there is between clear and muddy vapour. This division of clouds has at least the merit of brevity, although it is subsequently complicated by a further division into "two sorts of clouds, one either stationary or slow in motion, reflecting unresolved light, the other fast-flying and transmitting resolved light. [Really, clouds at a distance and clouds overhead.] As regards the difference in the nature of these, Mr. Ruskin merely "hints to us his suspicion that the prismatic cloud is of finely comminuted water or ice, instead of aqueous vapour";—it is difficult to understand what he supposes the former kind of cloud to be composed of.

During the forty years previous to 1871, according to the certificate of Mr. Ruskin, the clouds, thus divided and cross-divided, appear to have behaved themselves in a peaceable and orderly manner. Even the "thundercumulus" (English-Latin, by the way) did "its mighty work in its own hour and in its own dominions, not snatching from you for an instant or defiling with a stain the abiding blue of the transcendent sky, or the fretted silver of its passionless clouds." We may remark that these "good, old-fashioned, healthy storms" frequently had rather extensive dominions: *e.g.* on August 13, 1857, one of these storms was simultaneously felt over many thousand square miles, and extended from the Land's End to John o' Groat's, besides covering a very extensive district on the north-western parts of the European continent. The deportment of the great boggy meteor, "storm-cloud or more accurately plague-cloud," of the nineteenth century is exceedingly different. From one part of Mr. Ruskin's description of this phenomenon we imagined that he might allude to the sheet of stratus commonly occurring in winter anti-cyclones, a sheet which occasionally covers upwards of 60,000 square miles, with scarcely a rift in its surface, the greatest vertical thickness of the cloud being only 300 or 400 feet. But this illusion was

soon dispelled. For we find that "in the plague-wind the sun is choked out of the whole of heaven all day long by a cloud which might be a thousand miles square and five miles deep." One would scarcely have expected so dense a cloud mass merely to turn the sun red, but Mr. Ruskin is angry with it for not doing so: "That thin, scraggy, filthy, mangey, miserable cloud, for all the depth of it, could not turn the sun red as a good business-like fog did with a hundred feet or so of itself." Further, it is accompanied by a terrible wind by which "every breath of air is polluted half round the world" [*sic*]. Mr. Ruskin omitted to mention the effects of this plague-wind on agricultural or vital statistics. "It is a wind of darkness," also "a malignant wind." Further, "it always blows tremulously, making the leaves of the trees shudder as if they were all aspens but with a peculiar fitfulness which gives them an expression of anger as well as of fear and distress." Further, "it pollutes as well as intensifies the violence of all natural and necessary storms." Here again some explanation is sorely needed, since we should much like to know whether during the plague-wind barometric gradients become steeper, or whether the force of the wind in relation to the gradient is greater than usual.

Enough for the present of such bogies; although we fear that we have by no means done with them until our literary men will master the simplest elementary primers. But not enough of Mr. Ruskin, whom we could ill spare. His English is often delicious; always in his most dyspeptic diatribes amusing. And we can all appreciate his concluding advice that we should "bring back our own cheerfulness and our own honesty; and cease from the troubling of our own passions," and (not least we think of all) "the insolence of our own lips." A good recipe: add a dash of humility and of respect for the opinions of wiser men;—and all may yet be well, even though our return to the paths of rectitude should fail to dissolve the "mangey" clouds, and quench the fevered wind of a storm-harried and woe-worn era.

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SPINOZA

Ethic. By Benedict de Spinoza. Translated from the Latin by William Hale White. (London: Trübner and Co., 1883.)

IF proof were requisite that the standard of value in philosophy is different from that which obtains in the estimation of scientific research, it would only be necessary to point to the case of Spinoza. There is probably no thinker of the nature of whose work there obtain conceptions more hopelessly irreconcilable; there is certainly none about whose position there is more general unanimity. To refer to the more recent of his English critics, Prof. Caird and Mr. Frederick Pollock are at one in assigning to Spinoza most important functions in the development of philosophical inquiry. Yet there is scarcely a single point in his system as to which their respective interpretations are not mutually exclusive. But as regards the broad feature which makes Spinozism deeply interesting to students of science in the strict sense there can be no doubt. The application of the method of geometry to philosophical problems finds its counterpart in the prevailing, and apparently by no means diminishing, disposi-